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ART. XX.—*A Powdery Mildew of Boronia megastigma* Nees.

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(With Plate XIII.)

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Introduction.

In September and October, 1933, *Boronia* grown at Healesville was found to be diseased. On investigation, it was found that the disease symptoms were caused by a species of *Oidium*.

In the family Rutaceae, to which *Boronia* belongs, there are a few members which are attacked by species of *Oidium*, namely:—

- (1) *Ruta Buxbaumi* attacked by *Oidium Haplophylli*.
- (2) *Citrus spec.* attacked by *Oidium fasciculatum*.
- (3) *Citrus Aurantium* attacked by *Oidium Citri Aurantii* and *Oidium fasciculatum*.
- (4) *Citrus limonum* attacked by *Oidium fasciculatum*.

Three other fungi have been recorded on *Boronia* spp., but, up to date, the forms described do not include any species of *Oidium*. It is proposed to give the fungus in question the specific name *Oidium Boroniae*, n.sp.

Symptoms.

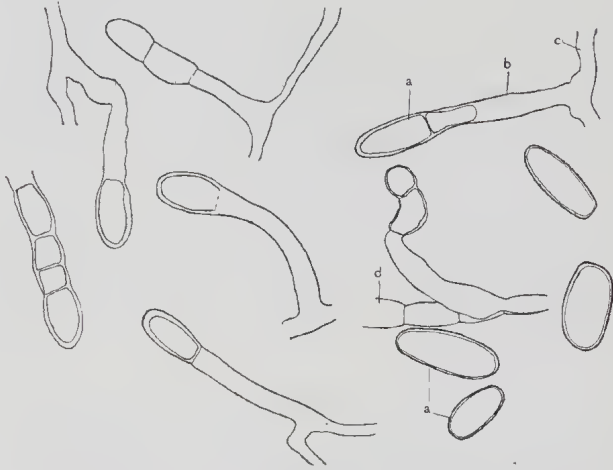
A noticeable feature of the disease was that the symptoms were confined to the petals only, while the stem and leaves appeared to be quite normal. The outer surface of the petals, which in the healthy plant is black, was found to be covered with a white felt of mycelium and was rather wrinkled and dry—cf. smooth surface of petals of healthy flowers—giving to the whole plant a withered appearance.

Description of *Oidium Boroniae*, n.sp.

The mycelium forms a white, dense network on the surface of the petals, and from the vegetative mycelium, aerial branches arise. At the apices of the fertile branches, oidia are constricted. The oidia are usually ovoid in shape, with an average size of $28\mu \times 13\mu$ and a range of $19-38\mu \times 11-18\mu$. The fertile hyphae are unbranched and from $6\frac{1}{2}-9\mu$ in diameter.

OIDIUM BORONIAE, n.sp.

Mycelium vegetale album, ex hypis ramosis formatum
 Hyphae fertiles erectae, sine ramis, diametro a 6.5 ad 9μ .
 Conidia plerumque ovalia, mensura a 19 ad 38 x 11 ad 18μ ,
 mensura media 28 x 13μ .



Oidium Boroniae.—Formation of Oidia.—(a) Oidia $\times 625$. (b) Aerial hypha bearing oidia. (c) Vegetative hyphae $\times 625$. (d) Epidermis of petals.

Discussion.

In the case of the other members of Rutaceae, which are attacked by species of *Oidium*, the leaves or fruit were affected, while in the case under discussion, the attack was confined to the petals.

Comparing *Oidium Boroniae*, n.sp., with these other species, it is noted that *Oidium Haplophylli* has very elongated spores ($60 \times 13\mu$); *Oidium fasciculatum* has ovoid or globose oidia, while in *Oidium Citri Aurantii*, they may be globose (12μ diameter); ovoid ($12-13\mu \times 9-9\frac{1}{2}\mu$); or cylindrical ($14\frac{1}{2} \times 7\mu$).

Since these oidia do not correspond with those of the fungus on *Boronia*, in the absence of a perfect stage, this form may be described as a new species—*Oidium Boroniae*.



Boronia megastigma affected with
Powdery Mildew.

Note that the fungus affects the petals only.